Student Name: **Student id:** **Sect #:** **Ser#:**

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ITCS242: ASSEMBLY LANGUAGE PROGRAMMING **Quiz #5**: Procedures
****

1) Write a procedure named "***funX***" that accepts a value X of type short and returns F calculated as follows:

$$F = \begin{cases} x / 10 & | \ if\ x \geq 50 \\ x\ \%\ 10 & | \ otherwise \end{cases}$$

Write a procedure in a form that allows using invoke statement.

```
funX    proc    x: word, f: ptr word
        mov     esi, f
        movsx   eax, x
        mov     bx, 10
        idiv    bx
        cmp     x, 50
        jge     L1
        mov     [esi], dx
        jmp     done
L1:     mov     [esi], ax
done:   ret
funX    endp
```

2) *Given:*

x1	*sword*	*?*
f1	*sword*	*?*

Apply the above developed procedure ***funX****, to calculate the value of f1 for x1*

```
        invoke  funX, x1, addr f1
```

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ITCS242: ASSEMBLY LANGUAGE PROGRAMMING **Quiz #5**: Procedures

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3) Write a procedure named "***funT***" that accepts two value X and Y of type signed byte and returns F calculated as follows:

$$F = \begin{cases} x \,\%\, y & if\ x \geq 0 \\ x \,/\, y & otherwise \end{cases}$$

Write a procedure in a form that allows using invoke statement.

```
funT    proc    x: byte, y: byte, f: ptr byte
        mov     esi, f
        movsx   ax, x
        idiv    y
        cmp     x, 0
        jge     L1
        mov     [esi], aL
        jmp     done
L1:     mov     [esi], ah
done:   ret
funT    endp
```

1) *Given:*

```
x1      sbyte   ?
y1      sbyte
f1      sbyte   ?
```

Apply the above developed procedure ***funT****, to calculate the value of f1 for x1 and y1*

```
        invoke  funT, x1, y1, addr f1
```